

**Stephens Memorial Hospital
Oxford County
Norway, Maine
A-063-71-G-R**

**Departmental
Findings of Fact and Order
Air Emission License**

After review of the air emissions license renewal application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Stephens Memorial Hospital of Norway, Maine has applied to renew their Air Emission License, permitting the operation of emission sources associated with their health care facility.

B. Emission Equipment

Stephens Memorial Hospital is authorized to operate the following air emission units:

Fuel Burning Equipment

<u>Equipment</u>	<u>Date of Construction</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Fuel Type</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Stack #</u>
Boiler #1	1966	2.25	#2 fuel oil	16.1	1A
Boiler #2	1966	2.25	#2 fuel oil	16.1	1A
Boiler #3	1977	3.4	#2 fuel oil	24.3	2A
Boiler #4	1977	3.4	#2 fuel oil	24.3	2A
Boiler #5	1977	1.4	#2 fuel oil	10.0	2A
Ripley Boiler #6	1995	2.8	#2 fuel oil	19.6	3A
Boiler #7	2003	1.82	#2 fuel oil	13.0	4A

Emergency Diesel Generators

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Fuel Type, % Sulfur</u>	<u>Maximum Firing Rate (gal/hr)</u>
Generator 1	2.1	diesel, 0.05%	14.8
Generator 2	2.0	#2 fuel oil	13.9

C. Application Classification

The application for Stephens Memorial Hospital does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of current licensed emission units only and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (last amended December 24, 2005).

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

B. Boilers

Boilers #1 and #2 each have a heat input capacity of 2.25 MMBtu/hr and fire #2 fuel oil which meets the criteria in ASTM D396. Each boiler was manufactured in 1966 and are therefore not subject to New Source Performance Standards (NSPS) Subpart Dc.

Boilers #3 and #4 each have a heat input capacity of 3.4 MMBtu/hr and fire #2 fuel oil which meets the criteria in ASTM D396. Each boiler was manufactured in 1977 and are therefore not subject to New Source Performance Standards (NSPS) Subpart Dc.

Boiler #5 has a heat input capacity of 1.4 MMBtu/hr and fires #2 fuel oil which meets the criteria in ASTM D396. It was manufactured in 1977, has a heat input less than 10 MMBtu/hr and is therefore not subject to New Source Performance Standards (NSPS) Subpart Dc.

Ripley Boiler #6 has a heat input capacity of 2.8 MMBtu/hr and fires #2 fuel oil which meets the criteria in ASTM D396. It was manufactured in 1995, has a heat input less than 10 MMBtu/hr and is therefore not subject to New Source Performance Standards (NSPS) Subpart Dc.

Boiler #7 has a heat input capacity of 1.82 MMBtu/hr and fires #2 fuel oil which meets the criteria in ASTM D396. It was manufactured in 2003, has a heat input less than 10 MMBtu/hr and is therefore not subject to New Source Performance Standards (NSPS) Subpart Dc.

BPT for the existing boilers is the following:

1. Boiler #3 and Boiler #4 PM and PM₁₀ emission rates are based on *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103 (last amended November 3, 1990).

2. Boilers #1 and #2 and Boilers #5 - #7 PM and PM₁₀ emission rates are based on BPT of 0.08 lb/MMBtu.
3. SO₂ emission limits are based on the firing of fuel which meets the criteria in ASTM D396 for #2 fuel oil.
4. NO_x, CO and VOC emission data for #2 fuel oil combustion was taken from AP-42 dated 9/98 for boilers smaller than 100 MMBtu/hr.
5. Visible emissions from Stack 1A (Boilers #1 and #2), Stack 2A (Boilers #3, #4 and #5), Stack 3A (Boiler #6) and Stack 4A (Boiler #7) shall each not exceed an opacity of 20 percent on a six (6) minute block average basis.

C. Back-up Generators

Stephens Memorial Hospital operates two back-up diesel generators.

Back-up generators are only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Back-up generators are not to be used for prime power when reliable offsite power is available.

A summary of the BPT analysis for Generator #1 (215 kW) and Generator #2 (205 kW) is the following:

1. The Generator #1 shall fire only diesel fuel with a maximum sulfur content not to exceed 0.05% by weight.
2. Due to piping configurations, Generator #2 shall fire fuel which meets the criteria in ASTM D396 for #2 fuel oil from the existing underground storage tank used for the boilers.
3. The back-up generators shall each be limited to 500 hr/yr of operation based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.
4. PM, PM₁₀, NO_x, CO and VOC emission rates were based upon AP-42 data dated 10/96 for diesel engines smaller than 600 hp.
5. Visible emissions from Generator #1 and Generator #2 shall each not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period.

D. Annual Emissions

Stephens Memorial Hospital shall be restricted to the following annual emissions, based on a 12 month rolling total:

Total Licensed Annual Emissions for the Facility
(used to calculate the annual license fee)

<u>Pollutant</u>	<u>Boilers</u>	<u>Diesel #1</u>	<u>Diesel #2</u>	<u>Total TPY</u>
PM	2.5	0.2	0.2	2.9
PM ₁₀	2.5	0.2	0.2	2.9
SO ₂	10.6	0.1	0.1	10.8
NO _x	3.0	2.3	2.2	7.5
CO	0.7	0.5	0.5	1.7
VOC	0.1	0.2	0.2	0.5

III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a renewal source shall be determined on a case-by-case basis. Based on the above total facility emissions, Stephens Memorial Hospital is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-063-71-G-R, subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been

- necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
- A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - 2. pursuant to any other requirement of this license to perform stack testing.
 - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. submit a written report to the Department within thirty (30) days from date of test completion.
- [06-096 CMR 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- [06-096 CMR 115]
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for

the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]

- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 CMR 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

- (16) Boilers
- A. Boilers shall be limited to the following emission rates [06-096 CMR 115, BPT]:

Boiler #1 and Boiler #2 Emission Limits (each)

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.27
PM ₁₀	0.27
SO ₂	1.13
NO _x	0.32
CO	0.08
VOC	0.01

Boiler #3 and Boiler #4 Emission Limits (each)

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.41
PM ₁₀	0.41
SO ₂	1.71
NO _x	0.49
CO	0.12
VOC	0.01

Boiler #5 Emission Limits

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.17
PM ₁₀	0.17
SO ₂	0.71
NO _x	0.20
CO	0.05
VOC	0.01

Boiler #6 Emission Limits

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.34
PM ₁₀	0.34
SO ₂	1.41
NO _x	0.40
CO	0.10
VOC	0.01

Boiler #7 Emission Limits

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.15
PM ₁₀	0.15
SO ₂	0.92
NO _x	0.26
CO	0.06
VOC	0.01

- B. Boilers #1, #2, #3, #4, #5, #6 and #7 combined fuel use shall not exceed 300,000 gallons/year (12-month rolling total) of fuel which meets the criteria in ASTM D396 for #2 fuel oil. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of fuel delivered. Records of annual fuel use shall be kept on a 12- month rolling total basis. [06-096 CMR 115, BPT]
- C. Visible emissions from Stack 1A (Boilers #1 and #2 common stack), Stack 2A (Boilers 3, 4 and 5 common stack), Stack 3A (Boiler #6) and Stack 4A (Boiler #7) shall each not exceed an opacity of 20 percent on a six (6) minute block average basis. [06-069 CMR 101]

(17) Back-up Generators

- A. Emissions from Generator 1 shall not exceed the following [06-096 CMR 115, BPT]:

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.65
PM ₁₀	0.65
SO ₂	0.11
NO _x	9.26
CO	2.00
VOC	0.76

- B. Emissions from Generator 2 shall not exceed the following [06-096 CMR 115, BPT]:

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.62
PM ₁₀	0.62
SO ₂	1.00
NO _x	8.82
CO	1.90
VOC	0.72

- C. Generator 1 and 2 each shall be limited to 500 hours per year of operation, based on a 12 month rolling total. An hour meter shall be maintained and operated on each emergency diesel generator. [06-096 CMR 115, BPT]
- D. The sulfur content of the fuel for Generator #1 shall be less than or equal to 0.05% by weight, demonstrated by fuel receipts from the supplier. [06-096 CMR 115, BPT]
- E. Generator #2 shall fire fuel which meets the criteria in ASTM D396 for #2 fuel oil. Compliance shall be demonstrated by fuel records from the supplier indicating the type of fuel delivered. [06-096 CMR 115, BPT]
- F. A log documenting the dates, times and reasons for operation for each generator shall be kept. [06-096 CMR 115, BPT]
- G. Visible emissions from each emergency generator shall not exceed 20% opacity on a six-(6) minute block average basis, except for two (2) six (6) minute block averages in a 3-hour period. [06-096 CMR 101]

- (18) Stephens Memorial Hospital shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2007.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: September 17, 2007

Date of application acceptance: September 24, 2007

Date filed with Board of Environmental Protection: _____

This order prepared by Mark E. Roberts, Bureau of Air Quality